CS 591 Assignment 5: Cave Adventure Design

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Abstract Class Game

Game class is designed as an abstract class. This class defines all the games and includes some common variables and methods in it. For example, each game has several persons to play it, each game has its own rules, each game has some operations and so on. This can be reused by all other games.

Class LevelGame extends Game

LevelGame class extends from Game, and it is a specific kind of game which has several levels. It defines the elements that such kind of game should include, such as it has several levels.

Class CaveAdventure extends LevelGame

CaveAdventure is the entrance of the Cave Adventure game, it concludes all the elements for this game, such as gods, goblins, knight, a list of adventures, a list of treasures, some operations, some penances and the logic of this game. It is designed specially for this game, so it might cannot be reused.

Class Name

This class defines the name of each person, and it can be reused anywhere there is a something that needs a name.

Class Person

It is a class that includes the properties of person, such as name, sex, birth of data and so on. It can be reused anywhere there is a person.

Class God extends Person

This is a role in Cave Adventure, and in this class, it can includes the elements that gods have, such as the word at their heart.It is designed specially for this game, so it might cannot be reused.

Class Goblin extends Person

This is a role in Cave Adventure, and in this class, it can includes the elements that goblins have, such as the treasure they guards. It is designed specially for this game, so it might cannot be reused.

Class Knight extends Person
This is a role in Cave Adventure, and in this class, it can includes the elements that knight have, such as the operations he might take. It is designed specially for this game, so it might cannot be reused.

Interface Rule
Rule is an interface, and it defines the methods that a rule should include, such as the description of the rules and check whether the player is win or not. It can be reused anywhere rules are needed.

Class CaveAdventureRule implement Rule
This is the implementation of the interface Rule. It's the specific rules for the game Cave Adventure. It is designed specially for this game, so it might cannot be reused.

Class Operation<T>
This class is a generic class and defines some operations. We can pass different kind of operations into it. Here, it is the adventures. It can be reused anywhere there are some operations.

Class Equipment<T>
This class defines the equipments that the game has. Here, it is the treasures that Cave Adventure has. And we can pass different kind of equipments into. It can be reused anywhere the game has equipments.

Class Penance
It defines a list of penances. It can be reused anywhere there are penances in the scene.

Class Animals
This class defines a list of animals that would appear in the knight's dream. It can be reused anywhere there are some animals.

Class Level<T>
This describes each level of the level game. We can distinguish each levels clearly.

Class Util
This class defines some common methods in the project. I think different projects have different Util class. Here, it might include some methods such as get input from players, generate a number randomly and so on.

Class Config
This is the configuration of this project. We can define some global final variables here.